

AMENDMENTS TO THE CLAIMS

This Listing of Claims will replace all prior versions and listings of claims in this application.

Listing of Claims:

1. (Previously Presented) A short-range wireless access point enabling a mobile wireless device to resume service with a network server after the wireless device moves out of the coverage area of the of the access point, comprising:

a server including transceivers for short-range wireless communication within a coverage area and with a network server;

means for registering the mobile device when initiating proximity services with a service provider;

means for transmitting a code to the mobile device for identification purposes in short-range and network communications;

means for obtaining from the mobile device a wide area identification of the mobile device;

means for initiating a session for the mobile device with the service provider when within the coverage area; and

means for maintaining the session with the service provider when the mobile device moves outside the coverage area;

wherein the code and the wide area identification are to be coupled into a hashed code for proximity identification of the mobile device, and wherein the hashed code is to be transmitted to the mobile device along with an instruction to forward the hashed code to the network server to associate the code and the wide area identification in a subsequent request for service by the mobile device.

2. (Previously Presented) The short-range wireless access point of claim 1, further comprising:

means for transferring the session to the network server when the mobile device moves outside the coverage area.

3. (Canceled)

4. (Previously Presented) The short-range wireless access point of claim 1, further comprising:

means for coupling the access point to the service provider via an information network.

5.-6. (Canceled)

7. (Previously Presented) The short-range wireless access point of claim 1, further comprising:

a service provider incorporated within the access point; and

means for enabling the access point to contact the mobile device and provide services via the short-range communication link when the mobile device is within the coverage area or through a cellular network if the mobile device is outside the coverage area.

8. (Previously Presented) The short-range wireless access point of claim 1, wherein the code is a MAC address and the wide area identification is a machine number for the mobile device.

9. (Previously Presented) The short-range wireless accesses point of claim 1, wherein the short-range communication link implements Bluetooth protocols.

10. (Previously Presented) The short-range wireless accesses point of claim 1, wherein the network server implements cellular protocols.

11. (Previously Presented) The short-range wireless access point of claim 4, wherein the information network is the Internet.

12. (Currently Amended) A method in a short-range wireless access point for enabling a mobile device to resume service with a network server, the service having been interrupted by moving the mobile device out of the coverage area of the access point, comprising:

~~a)~~ establishing a short-range communication link for initiating a service with the mobile wireless device, wherein the short-range communication link is based on a local area identification of the mobile wireless device;

~~b)~~ requesting from the mobile wireless device a second, additional identification through the short-range communication link, wherein the requested identification relates to a wide area network identification of the terminal;

~~c)~~ receiving the additional identification from the mobile wireless device;

~~d)~~ determining whether the service with the mobile wireless device through the short-range communication link is open;

~~e)~~ establishing wide area connection with the mobile wireless device using a stored association in response to detecting that the short-range communication link is closed;

~~f)~~ coupling the first and second identifications in a hashed code as a proximity identification of the mobile device; and

~~g)~~ transmitting a message to the mobile device including the hashed code and instructing the mobile device to forward the message to the ~~[[sewer]]~~server for associating the first identification with the second identification in a subsequent request for service by the mobile device.

13. (Currently Amended) The method of claim 12, further comprising:

~~h)~~ providing the access point with the first and the second identification of the mobile device.

14. (Currently Amended) The method of claim 12, further comprising:

~~i)~~ coupling the access point to the service provider via an information network.

15.-16. (Canceled)

17. (Currently Amended) The method of claim 12, further comprising:
j) incorporating a service provider within the access point; and
k) enabling the access point to contact the mobile device and provide services via the short-range communication link when the mobile device is within the coverage area or through a cellular network if the mobile device is outside the coverage area.
18. (Previously Presented) The method of claim 13, wherein the first identification is a MAC address and the second identification is a machine number for the mobile device.
19. (Previously Presented) The method of claim 12, wherein the short-range communication link implements Bluetooth protocols.
20. (Previously Presented) The method of claim 12, wherein a network server implements cellular protocols in establishing a wide area connection.
21. (Previously Presented) The method of claim 14, wherein the information network is the Internet.
22. (Previously Presented) A system enabling a mobile wireless device to resume service with a network server after the wireless device moves out of a coverage area of an access point, comprising:
a hotspot server including transceivers for short-range wireless communication within a coverage area and with a network server;
a mobile device including means for short-range communication and network communications;
means for coupling the hotspot server to a service provider;
means stored in the mobile device for implementing short-range communications with the hotspot server when within the coverage area;
means stored in the hotspot server for recognizing the mobile device when initiating

short-range communication with the mobile device;

means for registering the mobile device when initiating proximity services with the service provider, said means for registering to obtain a first, local identifier associated with the mobile device and to request and obtain a second, network identifier associated with the mobile device;

means for transmitting a code and a message to the mobile device for identification purposes in short-range and network communications, wherein the code comprises a hashed code formed from the first and second identifiers, and wherein the message comprises an instruction to the mobile device to send the code to the service provider to associate the first and second identifiers for a subsequent request for service;

means for initiating a session for the mobile device with the service provider within the coverage area; and

means for maintaining the session with the service provider using the code when the mobile device moves outside the coverage area.

23. (Previously Presented) The system of claim 22, wherein said first identifier comprises a MAC address of the mobile device and said second identifier comprises a cellular address number of the mobile device.

24. (Previously Presented) The system of claim 22, wherein the hotspot server is coupled to a backend server.

25. (Previously Presented) The system of claim 22, wherein a service provider is incorporated within the hotspot server and the server selects a first communication protocol to link with the mobile device when the mobile device is within the coverage area and a second communication protocol as a smooth handover when the mobile device leaves the coverage area.

26. (Previously Presented) The system of claim 22, wherein the service provider continues a consumer relation with the mobile device while out of the coverage area using the cellular address number of the device.

27. (Previously Presented) The system of 22, wherein the services provider services are SMS/MMS based.

28. (Previously Presented) The system of claim 22, wherein the service provider provides tailored services to a mobile device.

29. (Previously Presented) The system of claim 22, wherein the access point tracks and calculates services used by a mobile device within a billing zone and sends the billing data to the mobile device in a SMS message.

30. (Previously Presented) The system of claim 22, wherein the service provider services are browser/J2ME based.

31. (Currently Amended) A method enabling a mobile wireless device to resume service with a network server after the wireless device moves out of a coverage area of an access point, comprising:

a) installing transceivers in a hotspot server for short-range wireless communication within a coverage area and with a network server;

b) installing short-range communication and network communications means in a mobile device;

c) coupling the hotspot server to a service provider;

d) storing in the mobile device means for implementing short-range communications with the hotspot sewer when within the coverage area;

e) storing in the hotspot server means for recognizing the mobile device when initiating short-range communication with the mobile device;

f) registering the mobile device when initiating proximity services with the service provider, including obtaining a first, local identifier associated with the mobile device and requesting and obtaining a second, network identifier associated with the mobile device;

g) transmitting a message, including a code, to the mobile device for identification

purposes in short-range and network communications, wherein the code comprises a hashed code based on the first and second identifiers, and wherein the message comprises an instruction to the mobile device to send the code to the service provider to associate the first and second identifiers for a subsequent request for service;

~~h)~~ initiating a session for the mobile device with the service provider when within the coverage area; and

~~i)~~ maintaining the session with the service provider using the code when the mobile device moves outside the coverage area.

32. (Previously Presented) The method of claim 31, wherein said first identifier comprises a MAC address of the mobile device and said second identifier comprises a cellular address number of the mobile device.

33. (Previously Presented) The method of claim 31, wherein the hotspot server is coupled to a backend server.

34. (Previously Presented) The method of claim 31, wherein a service provider is incorporated within the hotspot server and the server selects a first communication protocol to link with the mobile device when the mobile device is within the coverage area and a second communication protocol as a smooth handover when the mobile device leaves the coverage area.

35. (Previously Presented) The method of claim 31, wherein the service provider continues a consumer relation with the mobile device while out of the coverage area using the cellular address number of the device.

36. (Previously Presented) The method of 31, wherein the services provider services are SMS/MMS based.

37. (Previously Presented) The method of claim 31, wherein the service provider provides tailored services to a mobile device.

38. (Previously Presented) The method of claim 31, wherein the access point tracks and calculates services used by a mobile device within a billing zone and sends the billing data to the mobile device in a SMS message.

39. (Previously Presented) The method of claim 31, wherein the service provider services are browser/J2ME based.

40. (New) An apparatus for enabling a mobile wireless device to resume service with a network server after the wireless device moves out of the coverage area of a short-range wireless access point, comprising:

- a server including transceivers for short-range wireless communication within a coverage area and with a network server;

- a registration unit configured to register the mobile device when initiating proximity services with a service provider;

- a transmitting unit configured to transmit a code to the mobile device for identification purposes in short-range and network communications;

- an obtaining unit configured to obtain from the mobile device a wide area identification of the mobile device;

- an initiating unit configured to initiate a session for the mobile device with the service provider when within the coverage area; and

- a maintaining unit configured to maintain the session with the service provider when the mobile device moves outside the coverage area;

wherein the code and the wide area identification are to be coupled into a hashed code for proximity identification of the mobile device, and wherein the hashed code is to be transmitted to the mobile device along with an instruction to forward the hashed code to the network server to associate the code and the wide area identification in a subsequent request for service by the mobile device.

41. (New) The apparatus of claim 40, further comprising:
a transferring unit configured to transfer the session to the network server when the mobile device moves outside the coverage area.
42. (New) The apparatus of claim 40, further comprising:
a coupling unit configured to couple the access point to the service provider via an information network.
43. (New) The apparatus of claim 40, further comprising:
a service provider incorporated within the access point; and
a unit configured to enable the access point to contact the mobile device and provide services via the short-range communication link when the mobile device is within the coverage area or through a cellular network if the mobile device is outside the coverage area.
44. (New) The apparatus of claim 40, wherein the code is a MAC address and the wide area identification is a machine number for the mobile device.
45. (New) The apparatus of claim 40, wherein the short-range communication link implements Bluetooth protocols.
46. (New) The apparatus of claim 40, wherein the network server implements cellular protocols.
47. (New) The apparatus of claim 42, wherein the information network is the Internet.
48. (New) An apparatus for enabling a mobile wireless device to resume service with a network server after the wireless device moves out of a coverage area of an access point, comprising:
a hotspot server including transceivers for short-range wireless communication within a

coverage area and with a network server;

a mobile device configured for short-range communication and network communications;

a coupling unit configured to couple the hotspot server to a service provider;

a unit stored in the mobile device for implementing short-range communications with the hotspot server when within the coverage area;

a unit stored in the hotspot server for recognizing the mobile device when initiating short-range communication with the mobile device;

a registration unit configured to register the mobile device when initiating proximity services with the service provider, said registration unit configured to obtain a first, local identifier associated with the mobile device and to request and obtain a second, network identifier associated with the mobile device;

a transmitting unit configured to transmit a code and a message to the mobile device for identification purposes in short-range and network communications, wherein the code comprises a hashed code formed from the first and second identifiers, and wherein the message comprises an instruction to the mobile device to send the code to the service provider to associate the first and second identifiers for a subsequent request for service;

an initiating unit configured to initiate a session for the mobile device with the service provider within the coverage area; and

a maintaining unit configured to maintain the session with the service provider using the code when the mobile device moves outside the coverage area.

49. (New) The apparatus of claim 48, wherein said first identifier comprises a MAC address of the mobile device and said second identifier comprises a cellular address number of the mobile device.

50. (New) The apparatus of claim 48, wherein the hotspot server is coupled to a backend server.

51. (New) The apparatus of claim 48, wherein the service provider is incorporated within the hotspot server and the server selects a first communication protocol to link with the mobile

device when the mobile device is within the coverage area and a second communication protocol as a smooth handover when the mobile device leaves the coverage area.

52. (New) The apparatus of claim 48, wherein the service provider continues a consumer relation with the mobile device while out of the coverage area using the cellular address number of the device.

53. (New) The apparatus of claim 48, wherein the services provider services are SMS/MMS based.

54. (New) The apparatus of claim 48, wherein the service provider provides tailored services to a mobile device.

55. (New) The apparatus of claim 48, wherein the access point tracks and calculates services used by a mobile device within a billing zone and sends the billing data to the mobile device in a SMS message.

56. (New) The apparatus of claim 48, wherein the service provider services are browser/J2ME based.